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THE RAILROAD CONSTRUCTION PROGRAM IN COMMUNIST CHINA

1949-1963

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~~SECRET~~I. Introduction

Since the Communist gained control over the China mainland in 1949 railroad construction and reconstruction has received continuing priority attention. Despite its ability and success in expanding the rail system in the west and other undeveloped areas, the Peiping regime is presently experiencing difficulties in providing sufficient transport capacity to support the increment of industrial growth which has occurred in the area of the older network of railroad lines. This part of the rail network has not been improved as rapidly as the rate of increase in traffic that it has been obliged to carry. This problem is a fundamental limitation on the present system and although a net general transport shortage does not yet exist, local rail congestion and local inability to handle requirements can be expected to continue.

During the first four years of the First Five Year Plan<sup>(1953-1957)</sup> about 30 percent of the total investment in railroad transportation has been expended on improvements in existing lines and facilities and at least 45 percent on new line construction, much of this for "development" and "strategic" purposes. The initial phases of the Second Five Year Plan<sup>(1958-1962)</sup>, however, will give first priority to improvement of existing lines. Double-tracking of main trunk lines, increasing the capacity of key rail junctions and yards, and increasing the capacity of certain main lines by the installation of automatic signalling systems is to be emphasized.

*The total investment in railroads planned for the Second Five Year Plan (1958-62) is estimated to double the amount originally scheduled in the First Five Year Plan.*

The total investment in the railroads planned for the Second Five Year Plan (1958-1963) is estimated at \$4.5 billion, double the amount originally scheduled in the First Five Year Plan.

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By 1959 the Chinese Communists will have a fourth direct rail link with the USSR and, by 1963, rail connections with all industrial areas of Mainland China. In the absence of disruption by external attack this system will greatly increase Chinese Communist economic and military rail transport capabilities.

## II. Status of Rail Network, 1949

Prior to 1949 the Chinese railroads were built primarily to connect ports with inland markets and raw material sources. After 1937, under pressure of the Japanese advance, some track was dismantled and transported westward to be reused in unoccupied China. During World War II the Japanese repaired and kept in operation the most important lines in the occupied areas, although aerial bombardment reduced total traffic capacity significantly by 1945. At the end of 1949 the Chinese Communists had available about 14,000 miles of operable rail line, much of which was in varied states of disrepair. (See Graphic)

## III. Railroad Construction Progress

### A. Pre-Plan Period (1949-1952)

During the pre-Plan period the railroad construction effort was devoted largely to the rehabilitation of existing lines. The program accomplished the immediate improvement of traditional rail connections with the USSR in Manchuria, and of the main axis of supply to South China -- the Peiping-Hankow-Canton railroad. Tracklaying in this period totaled 1750 miles of which over half was reconstruction. Major efforts were also concentrated in the construction of three new lines, one of which restored rail connections with North Vietnam.

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B. Progress in 1953-56

The original new line construction goal in the First Five Year Plan (1953-57) was 2,550 miles; by the end of 1956 over 2,700 miles had been constructed. (See Graphic) The first four years of the Plan have seen a transition from reconstruction to new construction. By 1953 sufficient progress had been made so that new construction into hinterland areas could be started and by 1954-55 the construction of certain priority lines with vital military as well as economic significance was well under-way.

By April 1955 the Chinese Communist section of the Trans-Mongolian line, providing a link with the USSR and making a start on a projected 2,000 mile north-south trunk system, was completed. This rail axis, located 600 miles inland, is expected to be completed in 1960. It will be connected with lateral east-west routes and provide a flexibility of rail movement never before available in China. Completion of this transport axis to its southern terminus in North Vietnam will also greatly increase Communist military and logistic capabilities along the periphery of Southeast Asia.

The 1800 mile long Trans-Sinkiang line which will link Lanchow with Central Asian USSR was nearly half completed by the end of 1956. On full completion in 1958 it will permit the exploitation of mineral and petroleum resources in the northwest Chinese provinces. Other important lines which were completed before 1957 were the Litang-Fort Bayard line in South China and the Yingtian-Amoy line in Fukien, both of which greatly increase Communist military potential in the coastal area.

*outward  
potential*

*any economic value?*

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Other new construction completed by the end of 1956 included important connecting and branch lines within the main system. The Plan also provided for the improvement of about 3,700 miles of track. Sections of some important lines have been double tracked, sections of trunk railroads in the east and northeast have been improved, and rail yards and station facilities have been completed at key rail centers. Allied facilities such as locomotive and car manufacturing plants, creosoting factories, bridge-making plants, and repair shops have been constructed at numerous places.

The cost of this program has been large. The share of total capital investment going to railroads in the First Five Year Plan will be around 16 percent, second only to the share of about 55 percent allocated to industry. Of the total railroad investment, nearly \$850 million will go to the construction of new lines, and about \$575 million to the improvement of existing lines.

The over-all quality of railroad construction has been relatively good. Although defects have occurred they can be attributed in most instances either to rugged terrain, accelerated construction to meet completion goals, or a combination of the two.

The Chinese Communists are leaning on the USSR for guidance in planning and construction techniques and much of the increased capability in railroad construction can be ascribed to this technical aid. Basically, however, the gains made in railroad construction have been largely due to the intensity of labor involved. Hundreds of thousands of corvee and forced labor workers, plus 11 divisions of the People's Liberation Army,

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have permitted the relatively small nucleus of skilled railroad construction workers to achieve the mileage goals established by the State.

C. Outlook for 1957 and the Second Five Year Plan

The present outlook is for further progress in 1957 and significant accomplishments in the subsequent Second Five Year Plan (1958-62).

Acceleration in the construction of new lines will continue in 1957. By the end of this year it is estimated that a total of ~~at least 1,000 miles~~ *from 1100 miles to 1400 miles of new lines will be completed.* Lines scheduled for completion in 1957

include a second connection with North Vietnam and the initial rail connection with Burma.

The Second Five Year Plan calls for the construction of over 5,000 miles of new lines. Lines scheduled in this period include the completion of the inland north-south axis, the Trans-Sinkiang line, and numerous other interconnecting and branch lines. (See Graphic) Also it is possible that the projected 800 mile Golmo-Lhasa line currently under aerial survey may be started during this Plan. Construction of this line would be through the most rugged terrain.

This Plan period will also see the first phase of an extended improvement effort. The most noteworthy project in this program is the double-tracking of the 750 mile Peiping-Hankow railroad.

The total investment in railroads planned for the Second Five Year Plan (1958-62) is estimated at double the amount originally scheduled in the First Five Year Plan. The share of total capital investment going to railroads in the Second Five Year Plan would be 13 percent, whereas that going to industry is planned at 60 percent. Over \$1 billion will be expended for new lines construction, and nearly \$830 million for the improvement of existing lines. The investment plan may be overfulfilled, as was the First Five Year Plan, so that these amounts may be considered minimal.

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IV. Problems in Railroad Construction

In order to meet the plans for 1958-62, problems of materials supply, skilled labor supply, and cost reduction will have to be solved. Based on past performance records and the expectation of continued high priority treatment of the sector it is estimated that these problems will engender only local and temporary dislocations in the program.

V. Evaluation of Rail Transport Construction Activity in Communist China

A. Problem Areas in Rail Transport

Despite success in expanding the rail system in the west and other undeveloped areas, the Peiping regime is experiencing serious difficulties in providing sufficient transport to accommodate the increasing demand induced by industrial growth. There have been indications since 1954 that the Chinese Communist rail system has not been improved at the same rate as the increase in traffic it has been obliged to carry. The fundamental limitation on the present system appears to be track capacity rather than the limited availability of rolling stock. A net general transport shortage does not exist as yet, but local rail congestion and local inability to handle requirements can be expected to continue. During 1956, reports of congestion and lack of adequate transportation have increased. Most of the recent trouble has been reported on sections of two key intersecting rail lines: the north-south Peiping-Hankow and the east-west Lunghai railways. (See Graphic) Additional investment in track and facilities on key existing lines such as these will be necessary during the immediate future to insure that transport will continue to be capable of supporting the planned expansion of the economy. Double-tracking of main lines, increasing the capacity

of key rail junctions and yards, and installation of automatic signalling systems on certain main lines are to be emphasized in the initial phases of the Second Five Year Plan.

B. Significance of Certain Lines

Strategic considerations played a large part in the early decisions concerning new construction. They apparently dictated the construction of the first rail link with North Vietnam because the line's economic significance would not have justified the priority it received. The same consideration also determined the construction of the Chining-Erhlien section of the Trans-Mongolian line, which provided a rail link with the USSR bypassing the militarily exposed coastal stretch between Manchuria and China Proper. Similarly the decision to push the Trans-Sinkiang line westward toward the USSR as quickly as possible and to complete a north-south rail connection in western China by building the Chengtu-Paochi Railway was, in part, strategic. Other new line construction, undertaken with the intention of increasing military logistic capabilities in strategic areas, includes the Litang-Fort Bayard and the Yingtian-Amoy lines. The latter will greatly enhance the logistic capabilities of the Chinese Communists in the coastal area of Fukien Province.

From the economic point of view, construction of the Chengtu-Chungking Railway has made possible shipment of the agricultural production of the Chengtu plain down the Yangtze River. Completion of the Chengtu-Paochi line and connections thereto, added another loop to the country's railway network and provided a hitherto non-existent direct transport route between northeast and southwest China. (See Graphic) The Trans-Sinkiang



Railway will prove to be a decisive factor in the economic development of northwest China, even though there may not be sufficient freight traffic to make the investment a paying proposition at present. However, as the railway progressed westward, one immediate economic effect was to increase shipments of crude oil from the Yumen oil fields to Manchurian and east China refineries.